PATENT ABSTRACTS OF JAPAN

(11)Publication number : 05-338229

(43)Date of publication of application : 21.12.1993

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(51)Int.Cl. B41J 2/325

B41J 2/525

B41J 5/30

G06F 3/12

H04N 1/23

H04N 1/46

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(54) COLOR PRINTER

(57)Abstract:

PURPOSE: To prepare a color print with different color combinations by installing means which, without changing respective image data for respectively specified monochromatic image data, conduct printing by changing only respective colors into the combinations of selected colors.

CONSTITUTION: A color printers 10, 20 is composed of a controller 10 connected to a host apparatus 1 for the communication between them and an engine part 20. Specified monochromatic image data storing means 13Y, 13M, 13C, a color combination change declaration means 23D, respective color change selection means 23S, 11, 12, 13, and selected color printing control means 11, 12 are installed to afford a color print by changing only color combinations without changing respective color data. The controller 10 outputs

respective printing data to the engine part 20 on the basis of respectively specified monochromatic image data YD1, MD2, CD3 which are sent from the host apparatus 1. The engine part 20, including an interface 21 and an engine control part 22, prints a multicolor image on a set printing surface.

LEGAL STATUS [Date of request for examination]

[Date of sending the examiner's decision of rejection]

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's decision of rejection]

[Date of requesting appeal against examiner's decision of rejection]

[Date of extinction of right]

CLAIMS

[Claim(s)]

[Claim 1] In the color printer which can shift each assignment monochrome image with time, and is overlapped in the same page of the field for printing based on each assignment color image data which color combination assignment was carried out and was transmitted from the high order device, prints, and color-prints the multi-colored picture image concerned Two or more assignment monochrome image data storage means to memorize each of each assignment monochrome image data for 1 page transmitted from said high order device, A color combination modification declaration means to declare the purport changed and color-printed on color combination other than the specified color combination, Each color modification selection means to choose a new color that the assignment color of each assignment monochrome image data

memorized by the assignment monochrome image data storage means should be changed into other assignment colors other than the assignment color concerned, The color printer which makes each image data concerned eternal about each assignment monochrome image data memorized by the assignment monochrome image data storage means, and is characterized by establishing the selection color printing control means which only each color is changed [control means] into the combination of a selection color, and makes it print.

DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Industrial Application] This invention relates to the color printer which makes a selection change of the color combination and can color-print the same image.

[0002]

[Description of the Prior Art] The outline block diagram of the color printer (10 20) of a thermofusion mold is shown in drawing 5 . In this drawing, 10 is formed including CPU, ROM, RAM, etc. by the controller, 20 is formed including an engine control section, a print head, various motors, an operation panel, etc., it is

the engine section and both 10 and 20 constitute a color printer.

[0003] 1 is the high order device which consists of a host computer etc., and transmits each assignment color image data YD1, MD2, and CD3 to a color printer (10). For example, the assignment colors of each assignment color image data YD1, MD2, and CD3 are yellow (Y), a Magenta (M), and cyanogen (C), and each of that image is O, **, and **. Every 1 page of fields for printing where each [these] assignment color image data YD1, MD2, and CD3 was set to the engine section 20 is transmitted.

[0004] therefore, the first assignment color image data (YD1) to which the controller 10 was transmitted from the high order device 1 -- RAM -- storing temporarily (STs 30 and 31 of drawing 6) -- the printing data based on the assignment color image data (YD1) concerned are outputted to the engine section 20. Then, a print head operates and the image (O) concerned of 1 classification by color is printed (ST32). That is, if a print head is driven when the yellow (Y) of the color ribbon with which it was fed in the direction of X comes to the arrangement location H of a print head shown in drawing 7 , image O of a yellow color is printable. Then, if it overlaps and image ** of a Magenta color and image ** of a cyanogen color are printed similarly, a 1-page color-print can be performed (STs 33 and 34). That is, even any number of multi-colored picture images by the color combination of each assignment color image data YD1, YD2,

and CD3 transmitted from the high order device 1 can be color-printed.

[0005] In this way, if color printing and a color picture are formed in the form for overhead projectors (OHP), the data of various meetings or an exhibition can be created easily.

[0006]

[Problem(s) to be Solved by the Invention] By the way, with structure, each assignment color image data YD1, MD2, and CD3 required in order to obtain the multi-colored picture image assumed beforehand is determined conventionally [above-mentioned]. However, the color-printed multi-colored picture image is not clear as an image, and does not always have the impact force. It is because only the image caught by commonsense decision of those who did the creation input of each assignment color image data YD1, MD2, and CD3 can be formed. Even so, if it is going to try the color-print with which color combination differs in order to obtain a multi-colored picture image with the strong impact force, for example, since each assignment color image data with various new color combination must be created, time and effort and time amount start and are not practical.

[0007] On the other hand, when separating the color based on the multi-colored picture image of a sample and carrying out automatic creation of each assignment color image data YD1, MD2, and CD3, in a color printer (10 20), it is

that the multi-colored picture image concerned is only faithfully reproducible.

[0008] The purpose of this invention is to offer the large color printer of applicability which can perform easily and quickly the color-print with which various kinds of color combination is chosen, and color combination differs.

[0009]

[Means for Solving the Problem] Printing faithfully and vividly the multi-colored picture image conventionally based on [this invention] each assignment color image data in a color printer is filled with a power point. And each assignment color image data observes an assignment color and an image that there is a knot which lacks in one-versatility since it is created as indivisible. It constitutes so that the assignment color of each assignment color image data may be separated from the image, a selection change may be made and the image concerned can be color-printed with the combination of the selection color, and said purpose is attained.

[0010] Namely, the color printer concerning this invention is based on each assignment color image data which color combination assignment was carried out and was transmitted from the high order device. In the color printer which can shift each assignment monochrome image with time, and is overlapped in the same page of the field for printing, prints, and color-prints the multi-colored picture image concerned Two or more assignment monochrome image data

storage means to memorize each of each assignment monochrome image data for 1 page transmitted from said high order device, A color combination modification declaration means to declare the purport changed and color-printed on color combination other than the specified color combination, Each color modification selection means to choose a new color that the assignment color of each assignment monochrome image data memorized by the assignment monochrome image data storage means should be changed into other assignment colors other than the assignment color concerned, Each image data concerned is made eternal about each assignment monochrome image data memorized by the assignment monochrome image data storage means, and it is characterized by establishing the selection color printing control means which only each color is changed [control means] into the combination of a selection color, and makes it print.

[0011]

[Function] In this invention by the above-mentioned configuration, each assignment monochrome image data received from the high order device is individually memorized by assignment monochrome image data storage means to correspond, respectively. While using a color combination modification declaration means here and making declaration to that effect, each color modification selection means is operated and modification selection of the

assignment color about each assignment monochrome image data is made at the other color. Then, a selection color printing control means works, and only the color of Perilla frutescens (L.) Britton var. crispa (Thunb.) Decne. is changed as it is eternal, and each image data is printed as combination of a selection color. Therefore, if three kinds (for example, Y, M, C) of assignment colors become, the printing formation of the multi-colored picture image by six kinds of color combination can be carried out simply.

[0012]

[Example] Hereafter, the example of this invention is explained with reference to a drawing. This color printer (10 20) consists of a controller 10 connected with the high order device 1 possible [a communication link], and the engine section 20, as shown in drawing 1 . And the assignment monochrome image data storage means 13Y, 13M, and 13C, a color combination modification declaration means (23D), each color modification selection means (23S, 11, 12, 13), and a selection color printing control means (11 12) are established. Each image data is eternal, and it is formed so that only color combination can be changed and color-printed.

[0013] Moreover, in this example, a catalog printing demand declaration means (23C) and a catalog printing control means (11 12) are established, and it is formed so that it may reduce into 1 page and each printing mode by modification

of color combination can be printed in list.

[0014] First, a controller 10 outputs each printing data to the engine section 20 based on each assignment monochrome image data YD1, MD2, and CD3 transmitted from the high order device 1 including CPU11, ROM12, RAM13, an interface 14, and 15 grades, as shown in drawing 1 .

[0015] This engine section 20 prints a multi-colored picture image to the set field for printing including an interface 21, the engine control section 22, the operation panel 23, a print head 24, the various motors 25, and various sensor 26 grades. Namely, fundamentally, it color-prints by carrying out duplication printing in one every color and 1 page using the color ribbon 29 shown in the pre- release of drawing 7 .

[0016] In addition, in this example, assignment colors are three colors of yellow (Y), a Magenta (M), and cyanogen (C), and, as for each assignment monochrome image data YD1, MD2, and CD3 which the field for printing is used as the form for OHP, and are transmitted from the high order device 1, that image is made into O, **, and **.

[0017] Moreover, fundamentally, whenever a printing control means (11 12) receives each assignment monochrome image data YD1, MD2, and CD3 one by one, it outputs every one printing data concerned to the engine section 20, and usually color-prints with the color combination specified by the high order device

1. That is, it is the same as the conventional example shown in the pre- release of drawing 6 .

[0018] the assignment monochrome image data storage means 13Y, 13M, and 13C of plurality (this example three) shown in a controller 10 at drawing 1 prepare here -- having -- **** -- these -- a part of RAM13 -- it is formed with the storage area. namely, CPU11 -- the high order device 1 to each assignment monochrome image data YD1, MD2, and CD3 -- receiving (YES of ST10 of drawing 2) -- write-in storage is carried out for every assignment color at the assignment monochrome image data storage means 13Y, 13M, and 13C concerned (ST11).

[0019] Next, the color combination modification declaration means is formed from modification declaration key 23D arranged by the operation panel 23 of drawing 1 , and declares the purport which prints the image concerned in different color combination from the color combination specified by the high order device 1 (YES of ST12).

[0020] In relation to this, each color modification selection means is formed from selection key 23S, and CPU11, ROM12 and RAM13, and chooses a new color that each assignment color of each assignment monochrome image data YD1, MD2, and CD3 (Y, M, C) should be changed into other colors other than the assignment color concerned (YES of ST17 of drawing 3). Namely, although

each assignment monochrome image data YD1, MD2, and CD3 memorized by the assignment monochrome image data storage means 13Y, 13M, and 13C are specified as yellow (Y), a Magenta (M), and cyanogen (C) from the high order device 1 For example, a selection change of the assignment color (Y) of the assignment monochrome image data YD1 is made at other other colors (M or C).

[0021] Therefore, in this example, since it is three colors (Y, M, C), as shown in drawing 4 , a total (YMC, YCM, MCY, MYC, CYM, CMY) of six sorts of combination of the color of S1-S6 can be chosen. In addition, S1 is the color combination (Y, M, C) of the base specified by the high order device 1.

[0022] Then, a selection color printing control means (11 12) About each assignment monochrome image data YD1, MD2, and CD3 memorized by the assignment monochrome image data storage means 13Y, 13M, and 13C It is the means which makes eternal the image data (D1, D2, D3) concerned, changes only the color (Y, M, C) into the combination of a selection color, and carries out printing control (STs 18 and 19). For example, when the color combination of S2 is chosen in drawing 4 , printing control is carried out like the case where each assignment monochrome image data of YD1, CD2, and MD3 is received from the high order device 1.

[0023] That is, yellow (Y) and image data D2 (**) are printed with cyanogen (C), image data D3 (**) is printed for image data D1 (O) with a Magenta (M), and the

color-print on which they were overlapped is made to perform.

[0024] Moreover, a catalog printing demand declaration means consists of demand declaration key 23C arranged in the operation panel 23. that is, this declaration makes -- having (YES of ST14 of drawing 2) -- the catalog printing control means (11 12) formed from CPU11 and ROM12 classifies the six above-mentioned sorts of all color combination into 1 page P of the field for printing shown in drawing 4 , and carries out printing control (STs 15 and 16). That is, catalog printing of the color-print sample by six sorts of color combination can be carried out.

[0025] Next, an operation of this example is explained. After declaring the purport which turns on modification declaration key 23D and performs the color-print by color combination modification, online printing operation is started (drawing 2).

[0026] the high order device 1 to each assignment monochrome image data YD1, MD2, and CD3 -- one by one -- receiving (ST10) -- CPU11 in a controller 10 memorizes each for assignment monochrome image data storage means 13Y, 13M, and 13C to correspond (STs 11 and 13).

[0027] here -- an operator -- demand declaration key 23C -- turning on -- a catalog demand -- carrying out (YES of ST14) -- a catalog printing control means (11 12) works, carrying out catalog data editing of the multi-colored picture

image with which color combination differs, drive control of the engine section 20 is carried out, and catalog printing is carried out (STs 15 and 16). That is, six kinds of reduced multi-colored picture image samples are printed in 1 page P of the field for printing shown in drawing 4 .

[0028] In the case of the color combination S1, it is the multi-colored picture image of the base (it specified by the high order device 1.) which carried out duplication printing of the image (**) of a Magenta (M), and the image (**) of cyanogen (C) in this order on the image (O) of yellow (Y). However, in the case of the color combination S6, it is the multi-colored picture image which carried out duplication printing of the image (**) of a Magenta (M), and the image (**) of yellow (Y) in this order on the image (O) of cyanogen (C), for example. Therefore, images differ depending on the combination of each of that image (O, **, **), and it becomes what has the strong impact force.

[0029] In this way, an operator does selection actuation of the color combination S6, using color modification selection means slack selection key 23S (ST17 of drawing 3). The color combination of this selection color is stored temporarily at RAM13 (ST18).

[0030] Outputting printing data to the engine section 20, drive control of the print head 24 grade is carried out, and a selection color printing control means (11 12) makes the selected color combination S6 color-print in this way. That is, when

the yellow (Y) of the color ribbon 29 shown in drawing 7 comes to the arrangement location of a print head 24, the case of cyanogen (C) makes an image (O) print an image (**) for an image (**) with a Magenta (M). Therefore, the multi-colored picture image of a color screen S6ful of combination can be color-printed on 1 page P (ST19).

[0031] The above color-print (ST19) is succeedingly performed until there is a command of printing termination (ST20). In addition, although carried out by NO of ST10, ST11, and ST12, and ST19 about color-print actuation [usually / (base S1)], since it is the same as the conventional example, explanation is omitted.

[0032] Carry out a deer, and according to this example, the assignment monochrome image data storage means 13Y, 13M, and 13C, a color combination modification declaration means (23D), each color modification selection means (23S, 11, 12, 13), and a selection color printing control means (11 12) are established. Since it considers as the configuration which can perform the color-print each image data of whose of each assignment monochrome image data YD1, MD2, and CD3 which received from the high order device 1 was eternal, and changed only color combination The multi-colored picture image of different color combination from the color combination specified by the high order device 1 is chosen, it can color-print easily, and applicability is large.

[0033] Moreover, a catalog printing demand declaration means (23C) and a catalog printing control means (11 12) are established, and since it considers as the configuration which can carry out catalog printing so that the multi-colored picture image by various color combination can be compared in 1 page, which color combination can distinguish in advance whether for example, the impact force is strong.

[0034]

[Effect of the Invention] According to this invention, an assignment monochrome image data storage means, a color combination modification declaration means, each color modification selection means, and a selection color printing control means are established. Each image data of each assignment monochrome image data which received from the high order device is eternal, since it considers as the configuration to which the color-print which changed only color combination can be carried out, the multi-colored picture image of different color combination from the color combination specified by the high order device is chosen, it can color-print easily, and applicability is large.

DESCRIPTION OF DRAWINGS
